

Attorney Docket No.: 205551-0002REMARKS

Claims 1-16 are pending in the Pending Application, Claims 1, 2, 5-8, 11, 12, 14, and 15 were previously withdrawn, Claims 3, 4, 9 and 10 have been rejected and Claims 13 and 16 have been allowed.

The Examiner has rejected Claims 3, 4, 9 and 10 under 35 USC 112 para. 2 as failing to comply with the written description requirement because the claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one of skill in the related art that the inventor, at the time the invention was filed, had possession of the claimed invention. As identified by the Examiner, the limitation reciting that the in-phase and quadrature phase components each include amplitude information, fails to comply with the written description requirement. The Examiner goes on to state that the specification does not describe that the in-phase and quadrature phase components include amplitude information, and thus the claims include new matter.

“While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure.” *MPEP* §2103. “Information which is well known in the art need not be described in detail in the specification.” *MPEP* §2103; See, e.g., *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 137980, 231 USPQ 81, 90 (Fed. Cir. 1986). “By disclosing in a patent application a device that inherently performs a function or has a property,...a patent application necessarily discloses that function... even though it says nothing explicit concerning it.” *MPEP* §2163.07(a).

The Examiner has failed to show that Claims 3, 4, 9 and 10 contain new matter because the limitation reciting that the in-phase and quadrature phase components of a complex base band signal include amplitude information is the inherent result of the

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modulation/demodulation processes used to produce the complex base band signal. Thus, the limitation is inherently disclosed in the specification.

Claim 3 recites a reverse spreading device for reversely spreading a signal. As is well-known, a reverse spreading device is used on the receiving end of a communication system to retrieve a signal transmitted after the signal had been spread using a spread code (such as CDMA) on the transmit end of the system. Also as recited in Claim 3, the signal acted upon by the reverse spreading device is a complex base band signal including an in-phase (I) and a quadrature (Q) component. It is also well known that a complex base band signal with I and Q components on the receiving end of a communication system is the result of a quadrature demodulation (i.e. detection) of a carrier signal modulated using phase modulation (such as QPSK) on the transmit end.

On the transmit end of a communication system, QPSK, by definition, includes modulating the phase of a carrier signal by a signal (i.e. the amplitude of the signal) that is to be transmitted. As a result, the phase of the modulated carrier signal corresponds to the amplitude of the modulating signal. Thus, the quadrature phase modulated carrier signal includes the amplitude information of the signal that is to be transmitted. On the receiving end of a communication system, the phase modulated carrier signal is demodulated to produce a base band signal. A quadrature phase modulated carrier signal is demodulated by multiplying the carrier signal with $\cos(\omega t)$ and by $\sin(\omega t)$, which results in a complex base band signal that includes an in-phase component (I) and a quadrature phase component (Q). Because demodulation, in general, is designed to preserve the information contained in a carrier signal in the corresponding base band signal, the in-phase (I) and a quadrature phase (Q) components of the of the base band signal necessarily include amplitude information.


Therefore, it is respectfully requested that the rejection of Claims 3, 4, 9 and 10 be withdrawn.

Attorney Docket No.: 205551-0002**Conclusion**

In view of the remarks set forth in this Response to Office Action, it is respectfully submitted that the Pending Application, including Claims 3, 4, 9, 10, 13 and 16, is in condition for allowance. Therefore, it is respectfully requested that the foregoing amendments be entered and the Pending Application be promptly allowed.

The Examiner is invited to contact the undersigned if such contact would in any way facilitate and/or expedite the prosecution of this application.

Respectfully submitted,

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